**All version**

Service
Service
**Service**

# Service Manual

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3141 785 30824

**Version 1.4**

PHILIPS

# 1.0 TECHNICAL SPECIFICATION

## General

| | |
|---|---|
| Dimensions (WxLxH): | 26 x 18 x 3.0 cm<br>10.2 x 7 x 1.2 inches |
| Weight: | 1.13 kg / 2.48 lb |
| Power supply: | DC 9V 2.2A |
| Power consumption: | 30W |
| Operating temp. range: | 0 - 50˚C (32 ~ 122˚F) |
| Laser wavelength: | 650nm |
| Video system: | NTSC / PAL / AUTO |
| Frequency response: | 20Hz ~ 20KHz ± 1dB |
| Signal/noise ratio: | ≥85dB |
| Audio distortion + noise: | ≤-80(1KHz) |
| Channel separation: | ≥85dB |
| Dynamic range: | ≥80dB |
| Output | |
| Audio out (analog audio): | Output level: 2V ± 10% |
| Load impedance: | 10KΩ |
| Video out Output level: | 1Vp - p ± 20% |
| Load impedance: | 75Ω |

## Current consumption

| DC-IN SUPPLY (9.0V) | |
|---|---|
| Battery Charging Current | 1.2A typ. |
| BATT. SUPPLY (7.2V) | |
| Power Off | 0A |
| Playback with TFT on | <1.2A typ. |
| Playback without TFT on | <600mA |
| Battery playtime | >2.5hrs |

## Headphone out (headphone output load 2x16ohm)

| | |
|---|---|
| Maximum output power: | >10mW |
| Frequency response: | 20Hz - 20kHz |
| SNR (A-wght): | 80dB typ. |
| THD (1kHz): | <1% |
| Left-Right Channel Separation: | 32dB typ. |
| Left-Right Channel Balance: | 1dB |

## Supported disc type

DVD video discs:

Video CD:

Audio CD:

DivX video discs:

In addition, this unit can play DVD+R & DVD+RW and CD-R & CD-RW that contains audio titles or MP3 or JPEG files.

You cannot play disc other than the above listed.
(CVD, CD-ROM, CD-Extra, CD-G and CD-I discs cannot be played on this DVD player)

## Software upgrades

For the best performance of your DVD Portable. Check **www.philips.com/support** for latest software upgrades available.

To check the software version of your DVD Portable.
1. Press the SETUP key to enter the setup menu.
2. Press RETURN and then press 1. 2 and 3 on the remote control.
3. The display will show the software version as the date of which the software was built on the bottom of the screen. E.g. 050303

Procedure on how to upgrade the software of the DVD Portable
1. Download the latest software from the Philips support site.
2. Unzipped the files and then burn it onto a CD ROM then playback the CD ROM on the DVD Portable.

## Pixel specification

<= 3 (max. 0 bright dots and 3 dark dots)

# 2.0 SAFTETY INSTRUCTIONS

**GB** **WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

**ESD**

**NL** **WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

**F** **ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

**D** **WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

**I** **AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

**GB**

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

**NL**

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

**F**

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utiliséés les piéces de rechange identiques à celles spécifiées.

**D**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Original zustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

**I**

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

**GB** **Warning !**

Invisible laser radiation when open.
Avoid direct exposure to beam.

**S** **Varning !**

Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

**SF** **Varoitus !**

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

**DK** **Advarse !**

Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsaettelse for stråling.

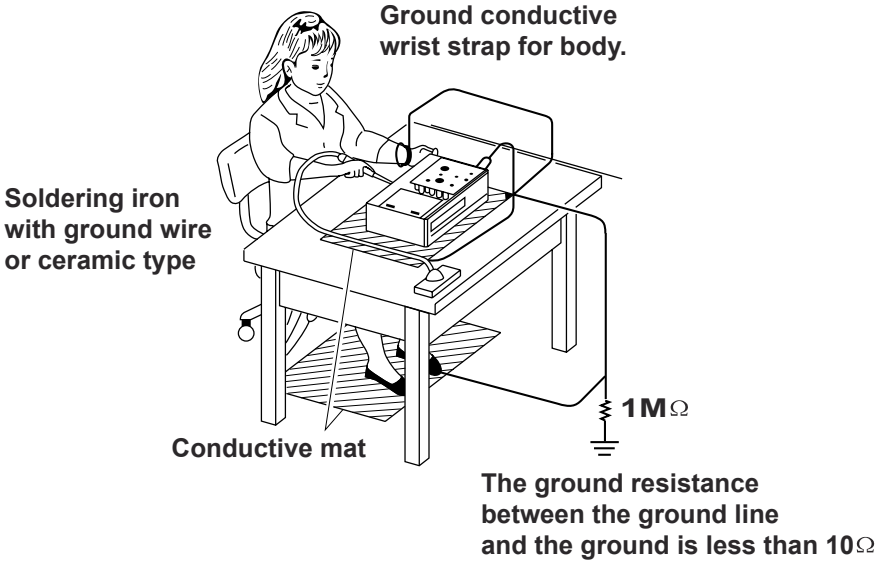
## 2.1 ESD PROTECTION

- レンズには絶対に触れないでください。
- DO NOT TOUCH THE LENS.
- LINSE NICHT BRÜHREN.
- NE PAS TOUCHER LA LENTILLE.

When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

## PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electrocity.
Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire,etc. to protect the laser diode form damage by static electricity.
And also, the LSI and IC are same as above.



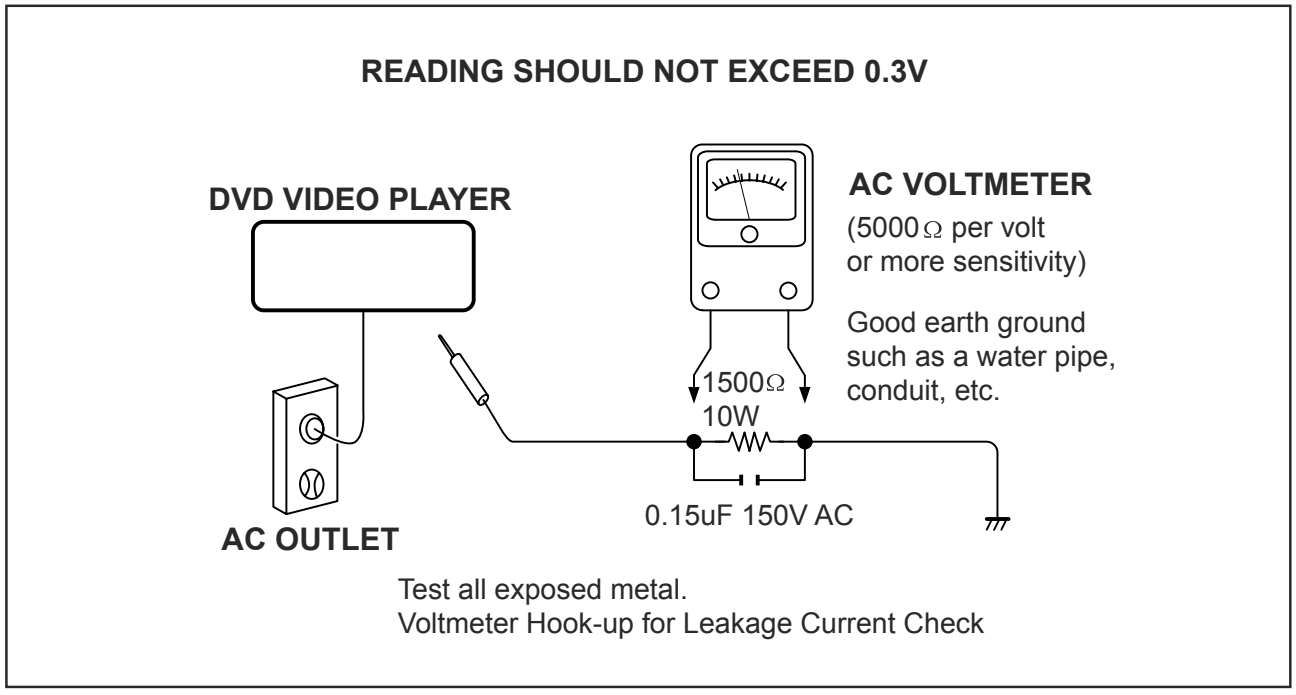
## SAFTY NOTICE

# SAFTY PRECAUTIONS

### LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having 5000Ω per volt or more sensitivity. Connect a 1500Ω 10W resistor,paralleled by a 0.15uF 150V AC capacitor between a knomn good earth ground (water pipe, conduit, etc.) and all exposed metal parts of cabinet (antennas, handle bracket, metal cabinet screwheads, metal overlays, control shafts, etc.).

Measure the AC voltage across the 1500Ω resistor. The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.3V.A reading exceeding 0.3V indicates that a dangerous potential exists, the fault must be located and corrected. Repeat the above test with the DVD VIDEO PLAYER power plug reversed.
NEVER RETURN A DVD VIDEO PLAYER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.




Test all exposed metal.
Voltmeter Hook-up for Leakage Current Check

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

# 3.0 INSTRUCTIONS FOR USE

① ▲, ▼, ◀, ▶
Up / down / left / right cursor
**OK**
Confirms selection

② **OSD**
On Screen Display on / off
**MENU**
Displays MENU page
**VIDEO OUT**
Selection video format
- COMPONENT OUT(YPBPR)
- COMPONENT OUT(YCBCR)
- A/V or S-VIDEO OUT
- A/V IN (AUX)

**MONITOR**
Selection display
☼ To adjust the brightness with ◀ ▶
To adjust the color with ◀ ▶

To adjust the screen of 16:9 or 4:3 with ◀ ▶
**SOUND**
Virtual surround sound on / off

③ **II**
Pause playback
▶
Starts / resumes playback
■
Press twice to stop playback
⏮ / ⏭
For previous (⏮) or next (⏭) chapters, tracks or titles
◀◀ / ▶▶
Search backward (◀◀) or search forward (▶▶)

④ ⏏ **OPEN**
Opens disc door to insert or remove disc

⑤ **POWER/CHG**
Power and charging indicator
**IR**
Remote sensor

⑥ **ON · POWER · OFF**
Switches the player on / off

⑦ ❶ 🎧 ❷
Headphones jack

⑧ **VOLUME**
Volume control

⑨ **A/V OUT**
Audio/video output jack

⑩ **A/V IN**
Audio/video input jack

⑪ **DIGITAL AUDIO OUT**
Digital Audio output jack

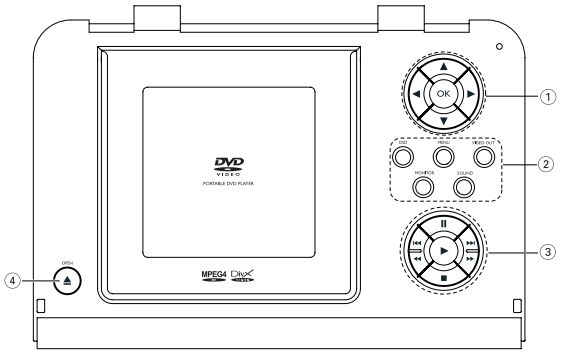
⑫ **S-VIDEO OUT**
S-Video output jack

⑬ **COMPONENT VIDEO**
Component video output jack

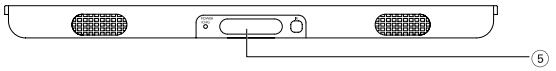
⑭ **DC IN 9V**
Power supply socket

***CAUTION***
***Use of controls or adjustments or performance of procedures other than herein may result in hazardous radiation exposure or other unsafe operation.***

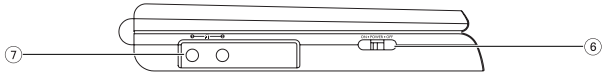
## DVD PLAYER LAYOUT



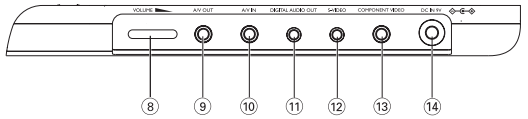

Main unit controls



Front of player



Left of player




Right of player

Remote Control

① ◂, ▸, ◂, ▸
Up / down / left / right cursor
**OK**
Confirms selection

② **VOLUME**
Volume control

③ ⏮ / ⏭
For previous (⏮) or next (⏭) chapters, tracks or titles
⏸
Pause playback
▸
Starts / resumes playback
■
Press twice to stop playback
◂◂ / ▸▸
Search backward (◂◂) or search forward (▸▸)

④ **OSD**
**O**n **S**creen **D**isplay on / off
⏭
Slow motion

⑤ **AUDIO**
Audio langauge selector
**ZOOM**
Enlarges video image

⑥ **A > B**
To repeat or loop a sequence in a title
**PLAY-MODE**
Selects play order options

⑦ **0 - 9**
Numeric keypad

⑧ **MUTE**
Muting play volume
**REPEAT**
Repeats chapter / title / disc

⑨ **RETURN**
For VCD menu page
**ANGLE**
Selects DVD camera angle

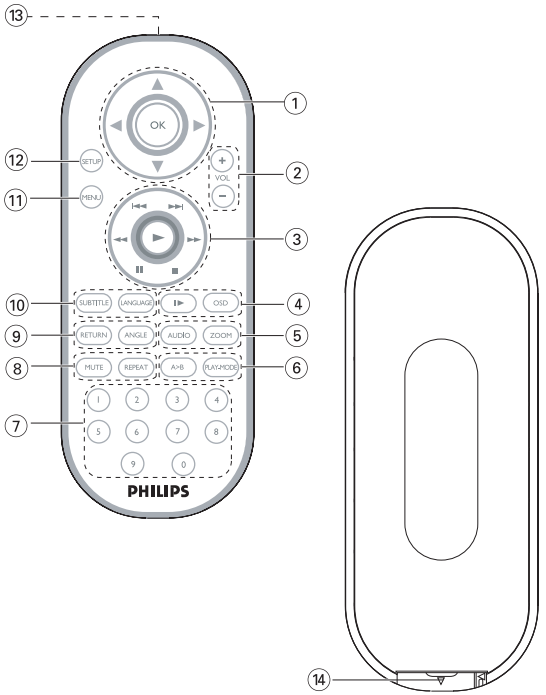
⑩ **SUBTITLE**
Subtitle language selector
**LANGUAGE**
Language selector

⑪ **MENU**
Displays MENU page

⑫ **SETUP**
Enters SETUP menu

⑬ **INFRA RED PORT**

⑭ **BATTERY COMPARTMENT**



# 4.0 MECHNICAL INSTRUCTIONS

1. Back View as Fig.1
   Remove 12 screws to remove base

Fig.1

2. Soldered short pattern for laser diode as Fig.2

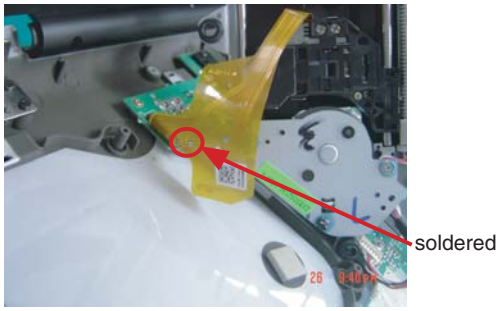



Fig.2

3. Remove DVD driver and main board as Fig.3,4
   Broken connection of DVD driver and main board

Fig.3

Remove DVD driver and main board

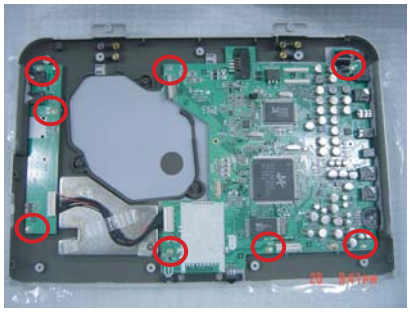


Fig.4

4. Remove key board and other parts as Fig.5

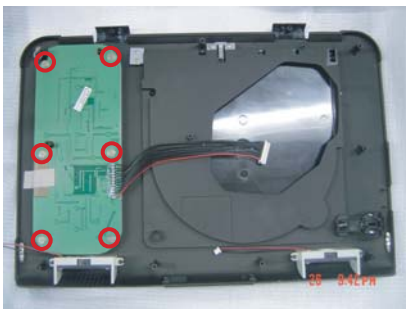


Fig.5

5. Remove top cover as Fig.6

Fig.6

6. Remove IF board and HV board as Fig.7

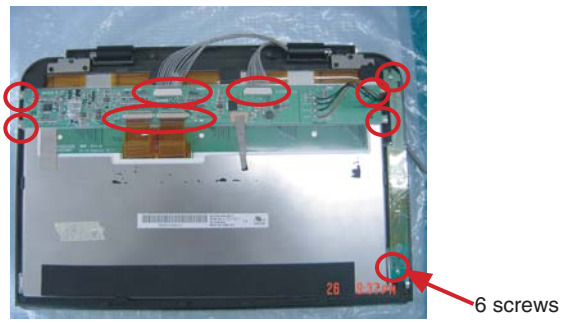



Fig.7

7. Remove LCD TFT as Fig.8
   Remove serew to remove LCD TFT as Fig.8

Fig.8

**Procedure to change regioncode**

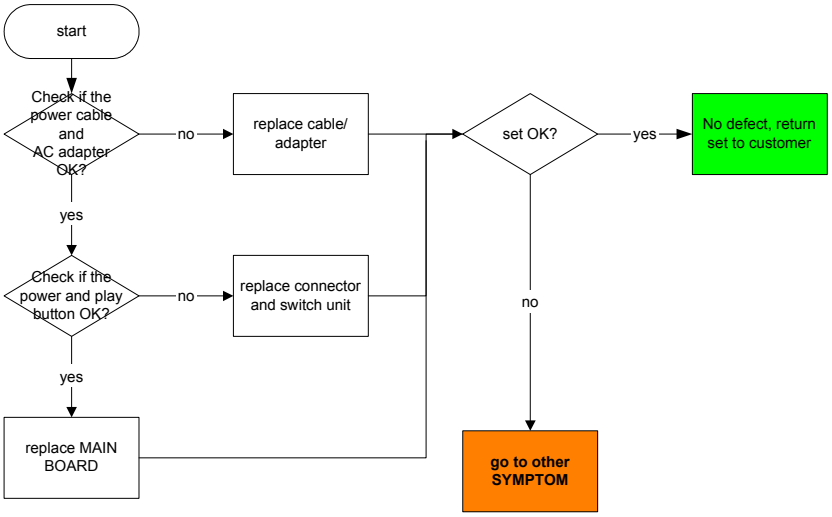
1. Power on player and open DVD Door.
2. Press <Set Up> at Remote Control. In <Set Up Menu> select <Preferences> then press <OK>.
3. For PET1002 - Press successively 2 1 2 2 2 5.◀.▼.
4. Display will show <Region Code 2> for Europe:
5. Press key to input preference region code (see below table).
6. Switch off and re-switch on the product.
7. Verify Region code change done.

| Region Code | Region |
|---|---|
| 1 | USA |
| 2 | EUROPE |
| 3 | ASIA PACIFIC |
| 4 | AUSTRALIA,<br>NEW ZEALAND,<br>LATAM |
| 5 | RUSSIA, INDIA |
| 6 | CHINA |

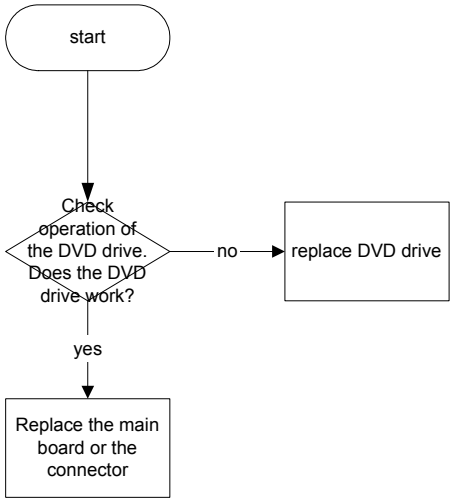
**REMARKS:**
**1. Password is CONFIDENTIAL.**
**2. Region code is printed on product type plate. Due to DVD legislation region codes different to assigned region may not be released.**

# 5.0 TROUBLESHOOTING & SERVICE TIPS

### SYMPTOM: NO POWER, NO GREEN LED

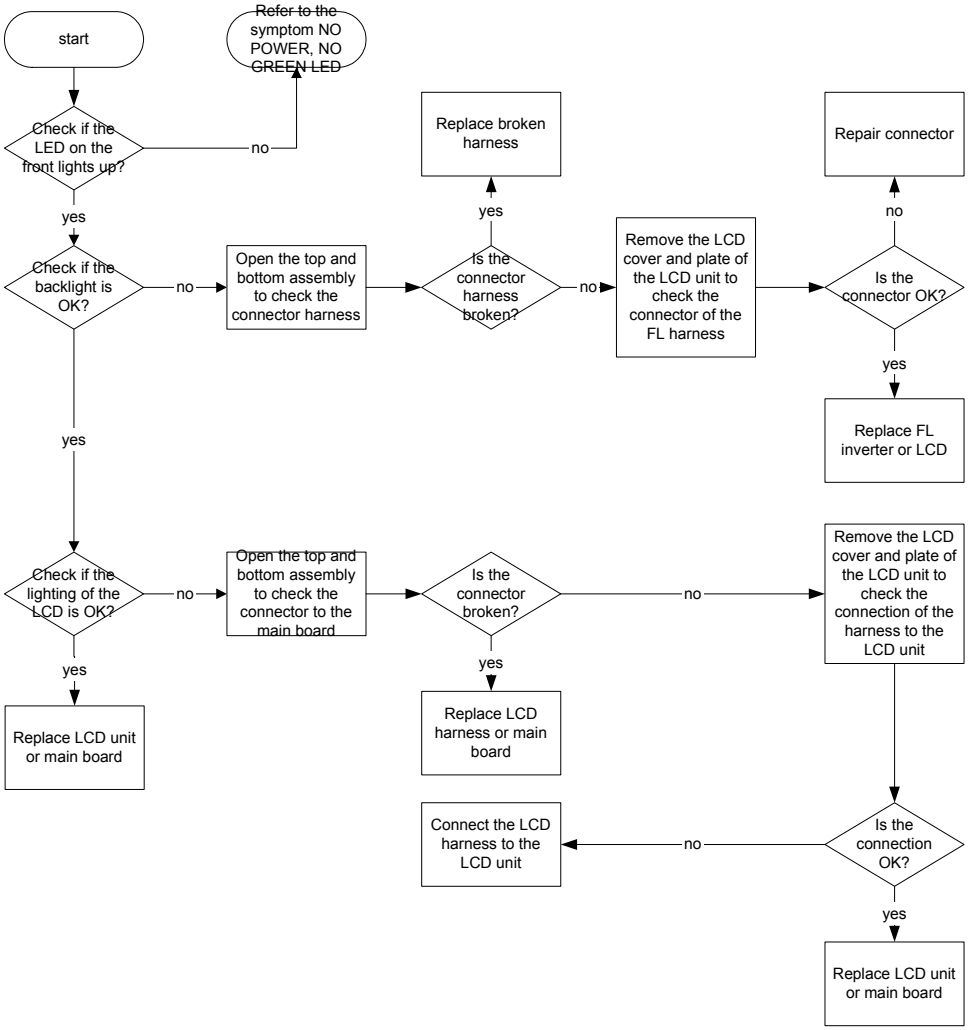



### SYMPTOM: NO IMAGE OR SOUND COMES OUT FROM THE EXTERNAL OUTPUT

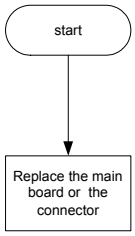

start
Check operation of the DVD drive. Does the DVD drive work?
no
replace DVD drive
yes
Replace the main board or the connector

# 5.0 TROUBLESHOOTING & SERVICE TIPS

**SYMPTOM: THE INITIAL SCREEN IS NOT DISPLAYED ON THE LCD**

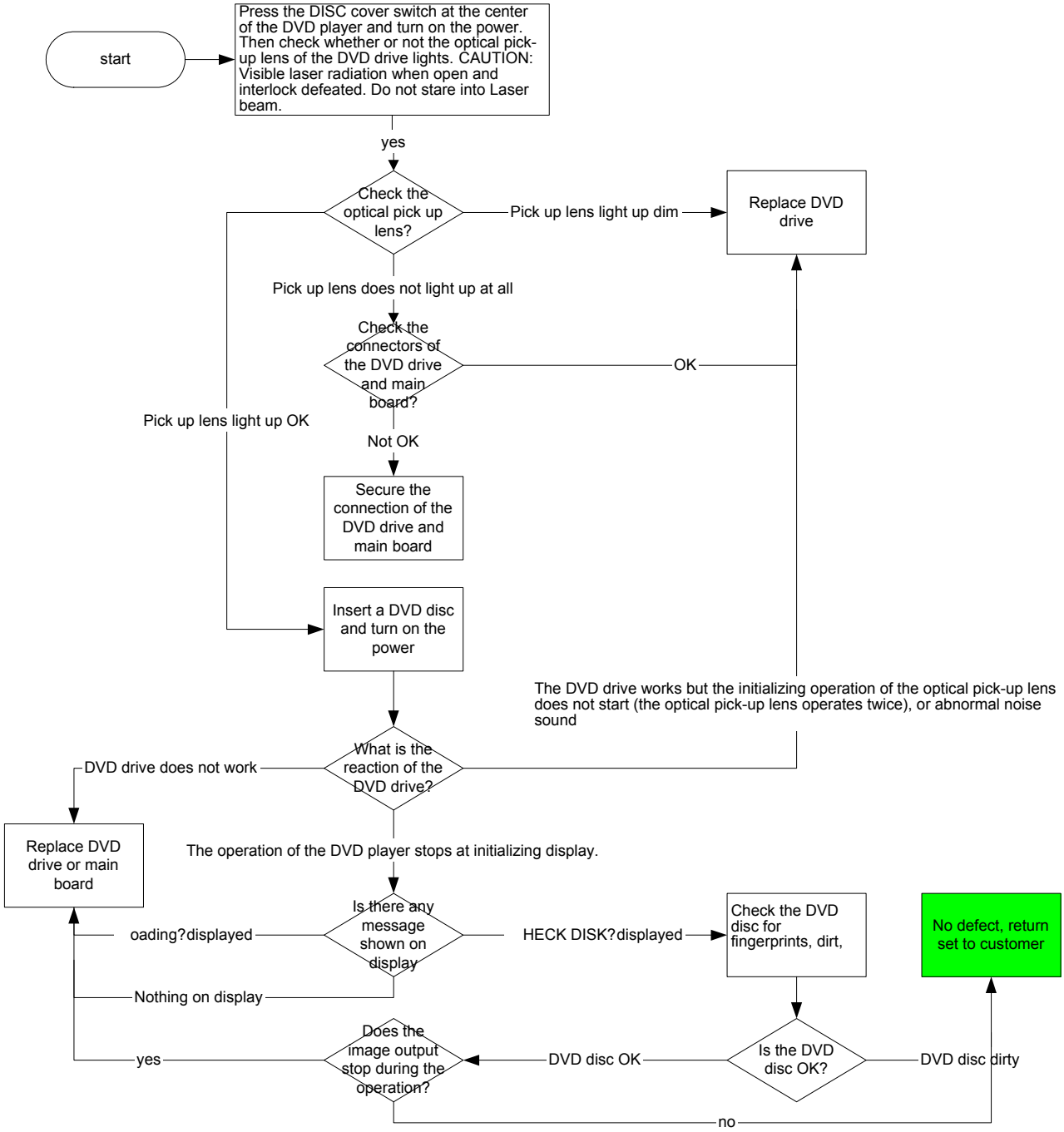

start
Refer to the symptom NO POWER, NO GREEN LED
Check if the LED on the front lights up?
no
yes
Check if the backlight is OK?
no
Open the top and bottom assembly to check the connector harness
Is the connector harness broken?
yes
no
Replace broken harness
Remove the LCD cover and plate of the LCD unit to check the connector of the FL harness
Is the connector OK?
no
yes
Repair connector
Replace FL inverter or LCD
yes
Check if the lighting of the LCD is OK?
no
Open the top and bottom assembly to check the connector to the main board
Is the connector broken?
no
yes
Remove the LCD cover and plate of the LCD unit to check the connection of the harness to the LCD unit
Replace LCD unit or main board
Replace LCD harness or main board
Is the connection OK?
no
yes
Connect the LCD harness to the LCD unit
Replace LCD unit or main board

**SYMPTOM: NO IMAGE OR SOUND COMES OUT FROM THE EXTERNAL INPUT**



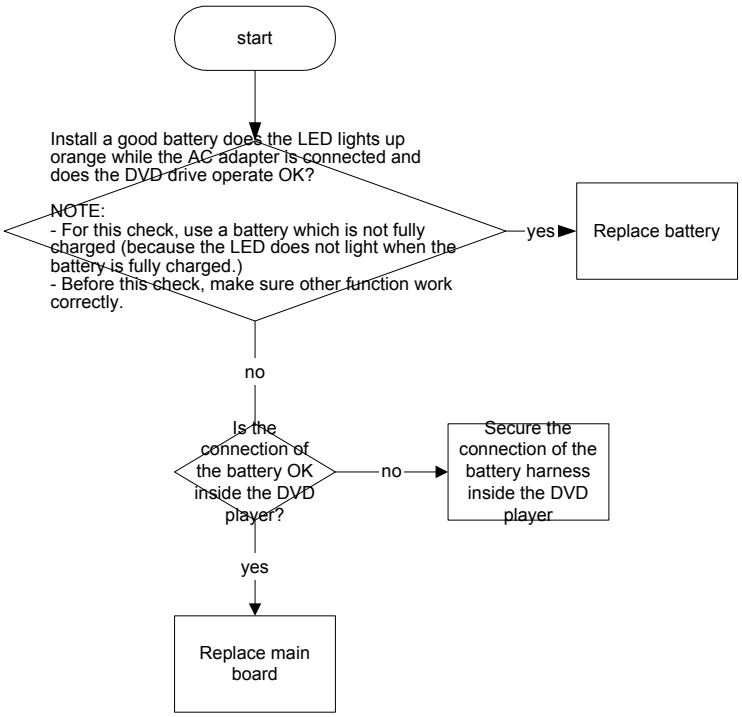
# 5.0 TROUBLESHOOTING & SERVICE TIPS

## SYMPTOM: THE DVD DRIVE DOES NOT WORK

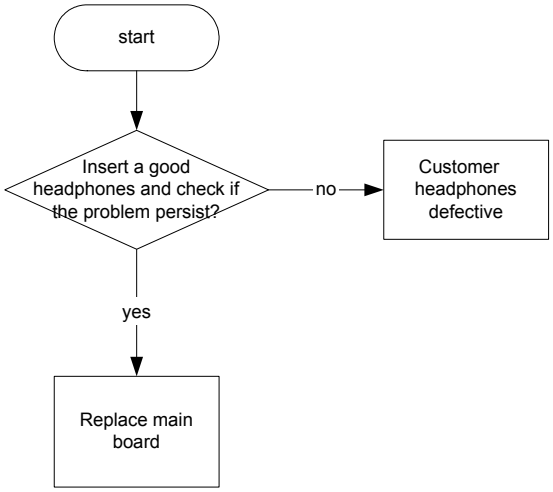

start
Press the DISC cover switch at the center of the DVD player and turn on the power. Then check whether or not the optical pick-up lens of the DVD drive lights. CAUTION: Visible laser radiation when open and interlock defeated. Do not stare into Laser beam.
yes
Check the optical pick up lens?
Pick up lens light up dim
Replace DVD drive
Pick up lens does not light up at all
Check the connectors of the DVD drive and main board?
OK
Pick up lens light up OK
Not OK
Secure the connection of the DVD drive and main board
Insert a DVD disc and turn on the power
The DVD drive works but the initializing operation of the optical pick-up lens does not start (the optical pick-up lens operates twice), or abnormal noise sound
What is the reaction of the DVD drive?
DVD drive does not work
Replace DVD drive or main board
The operation of the DVD player stops at initializing display.
Is there any message shown on display
oading?displayed
HECK DISK?displayed
Check the DVD disc for fingerprints, dirt,
No defect, return set to customer
Nothing on display
Does the image output stop during the operation?
yes
DVD disc OK
Is the DVD disc OK?
DVD disc dirty
no

# 5.0 TROUBLESHOOTING & SERVICE TIPS

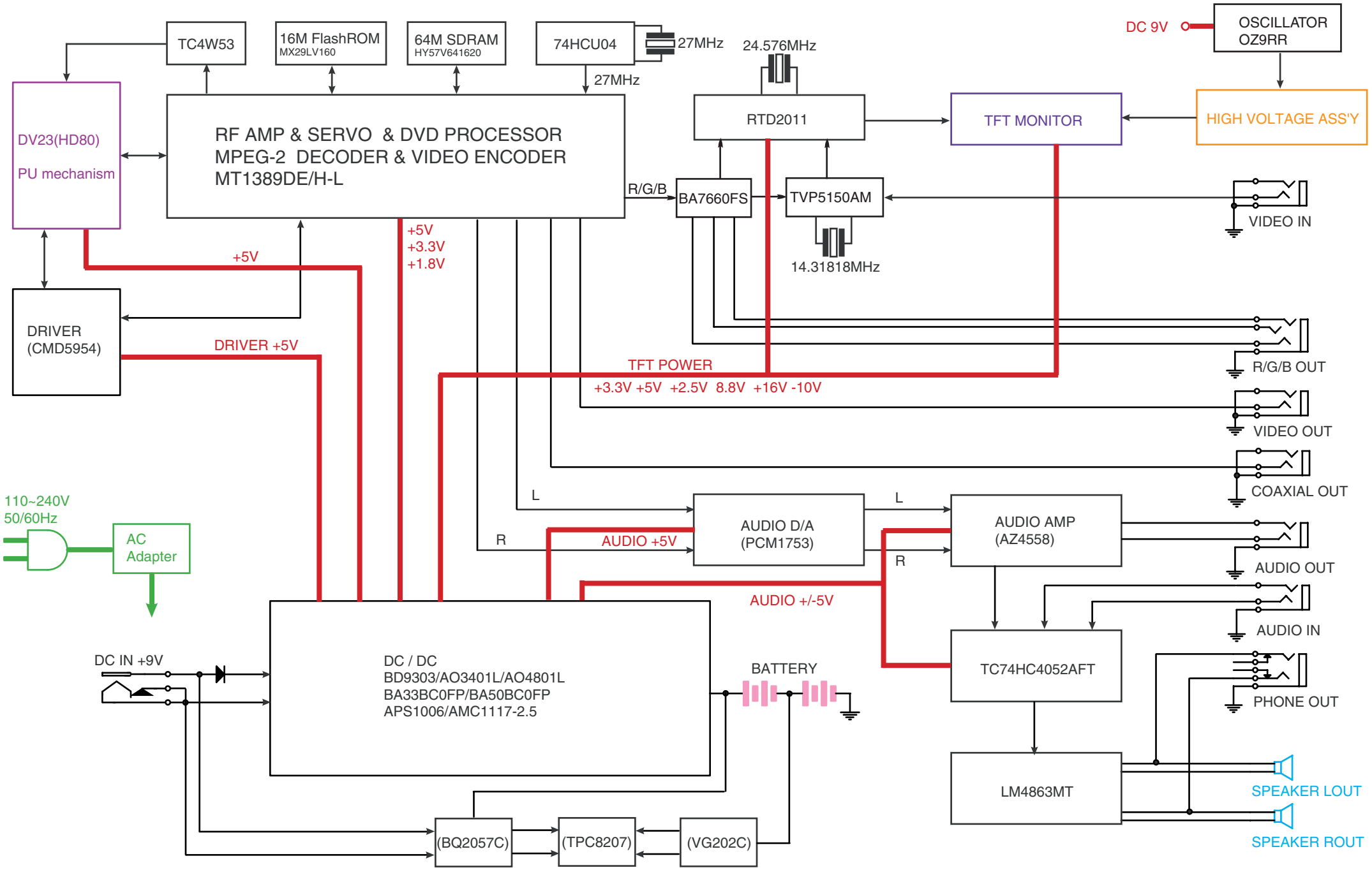
## SYMPTOM: THE DVD DRIVE DOES NOT OPERATE WITH BATTERY


start
Install a good battery does the LED lights up orange while the AC adapter is connected and does the DVD drive operate OK?
NOTE:
- For this check, use a battery which is not fully charged (because the LED does not light when the battery is fully charged.)
- Before this check, make sure other function work correctly.
yes
Replace battery
no
Is the connection of the battery OK inside the DVD player?
no
Secure the connection of the battery harness inside the DVD player
yes
Replace main board

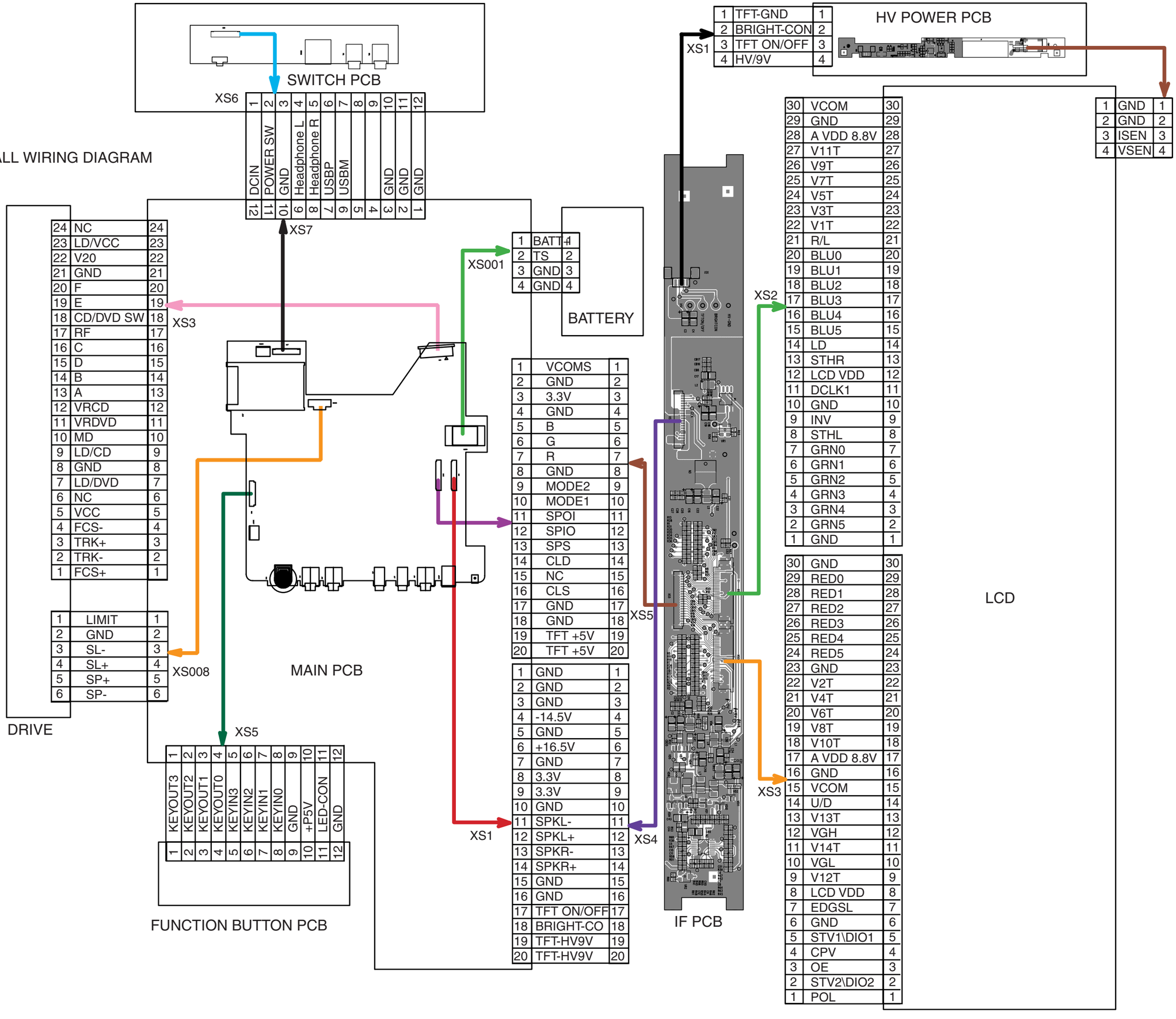
## SYMPTOM: NO SOUND COMES FROM THE HEADPHONES



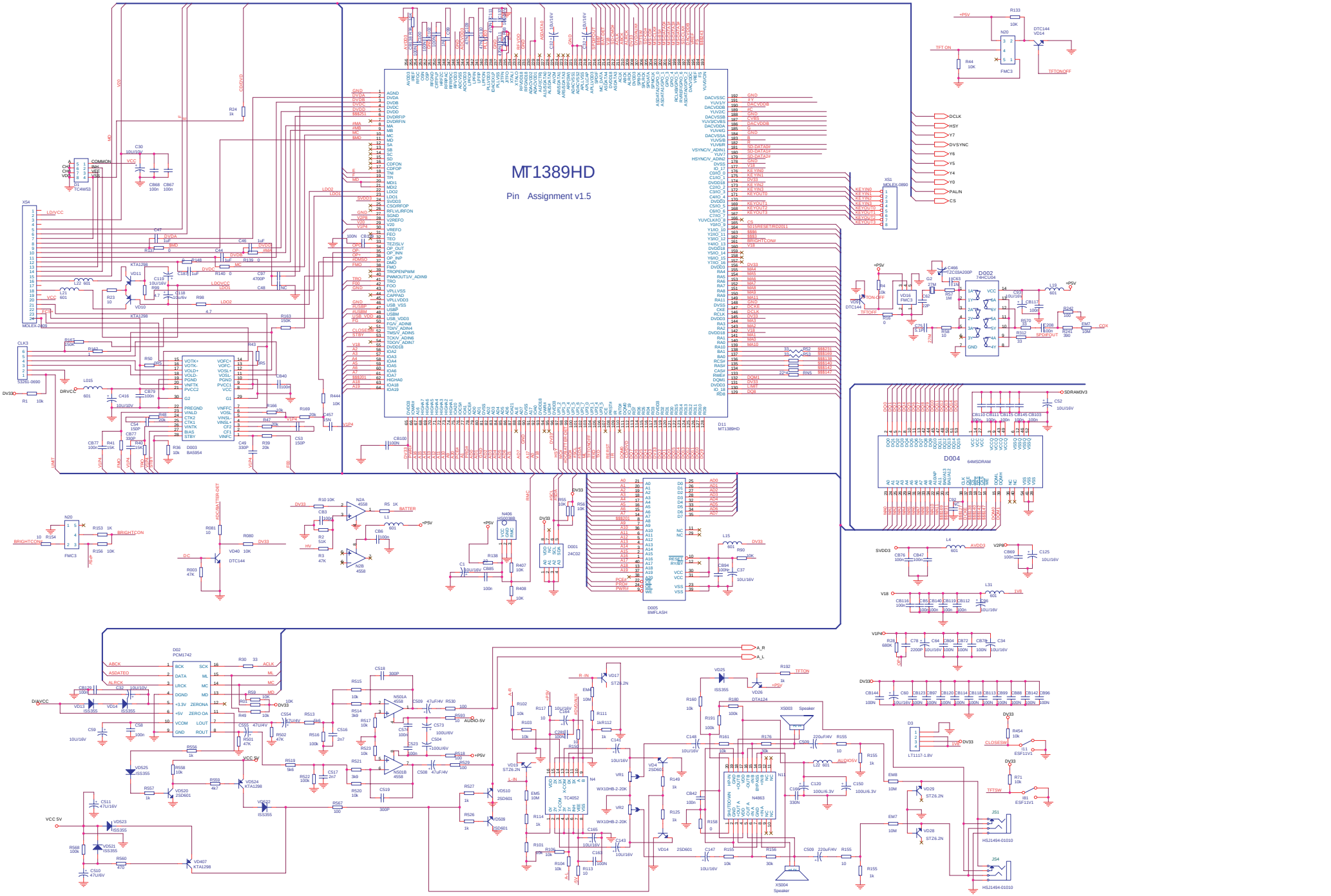
# 6.0 OVERALL BLOCK DIAGRAM



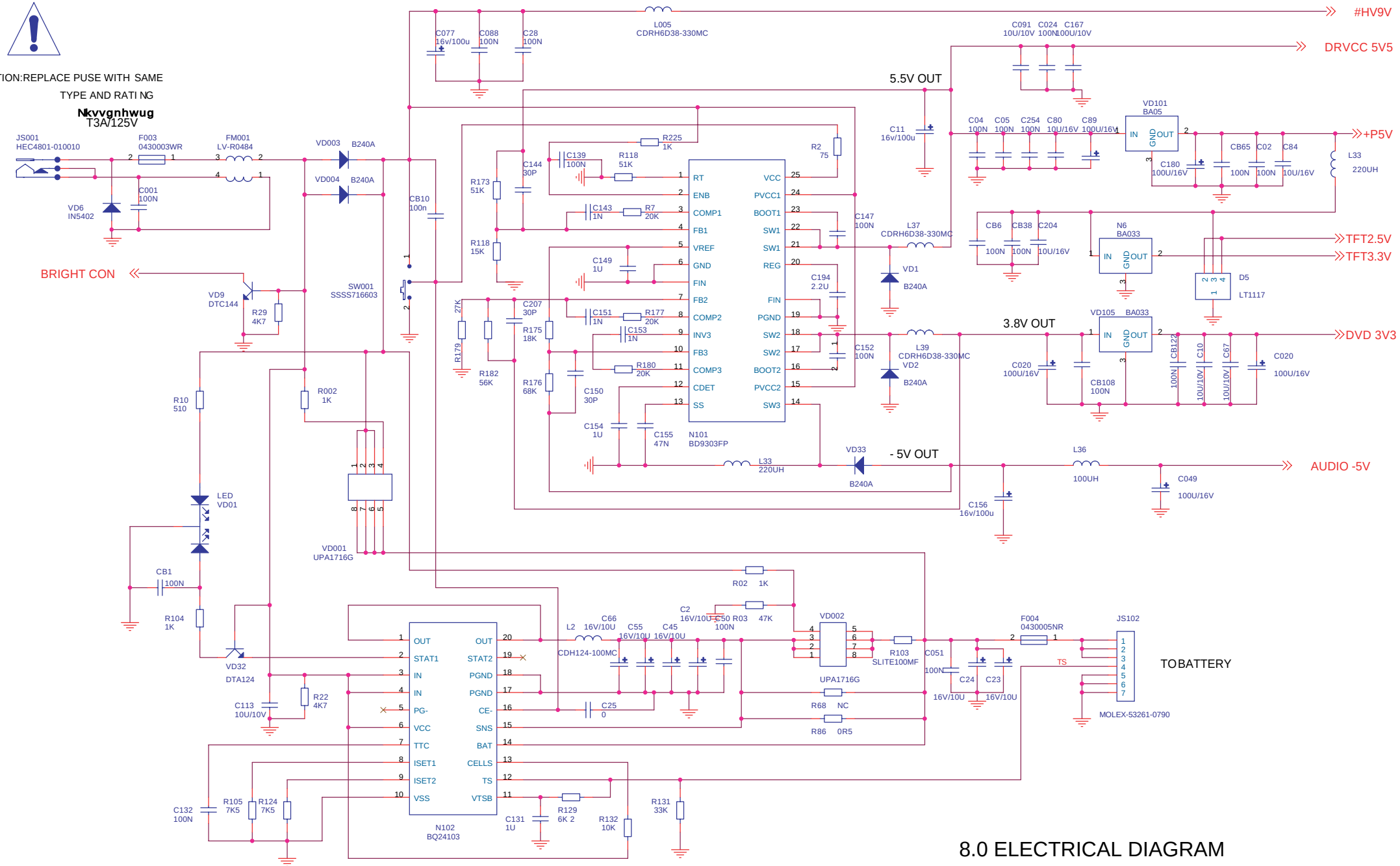
## 7.0 OVERALL WIRING DIAGRAM



# 8.0 ELECTRICAL DIAGRAM
# MAIN BOARD CIRCUIT DIAGRAM (MPEG & SERVO & AV OUT)

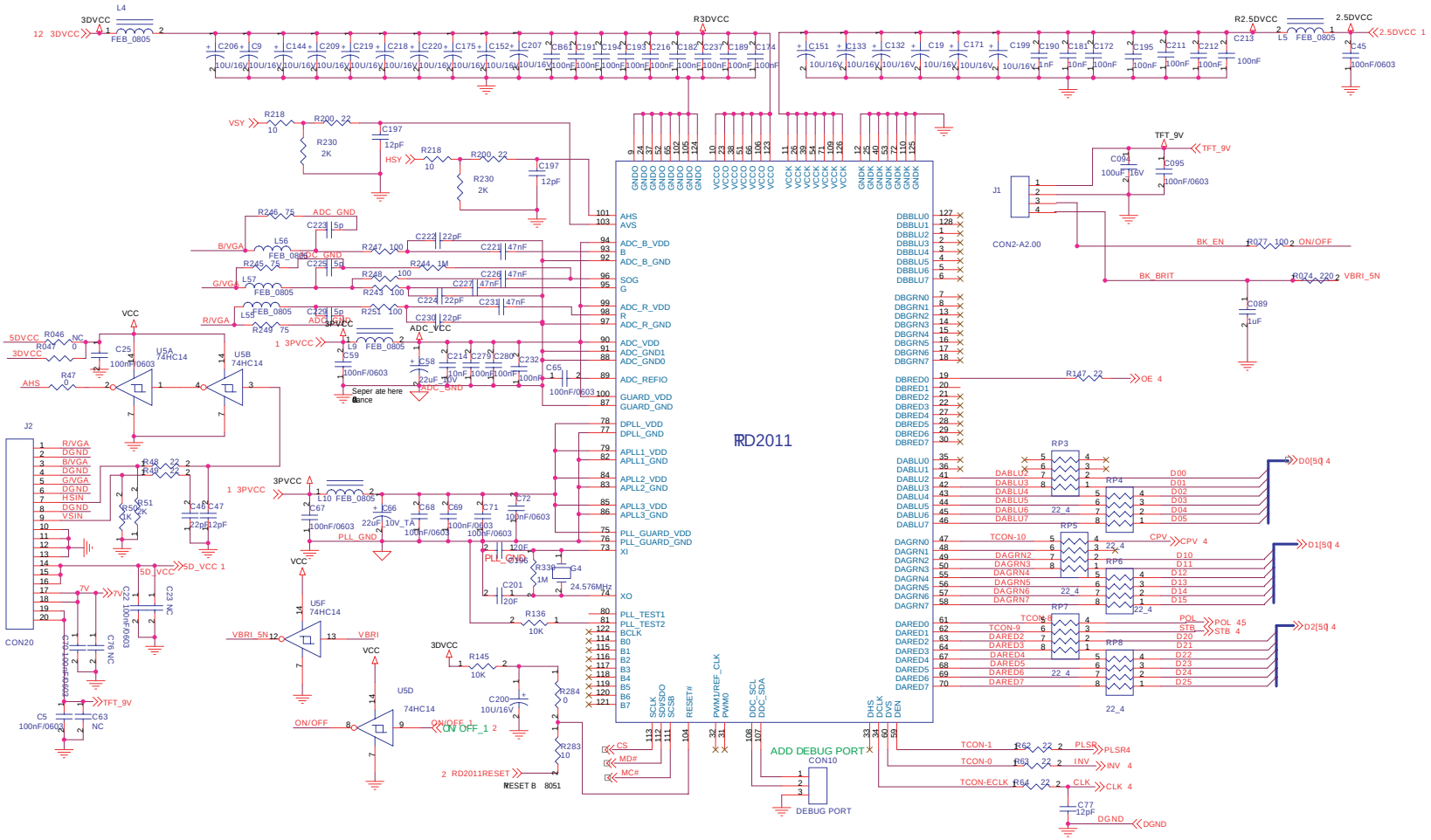


# 8.0 ELECTRICAL DIAGRAM
# MAIN BOARD CIRCUIT DIAGRAM (DC POWER)

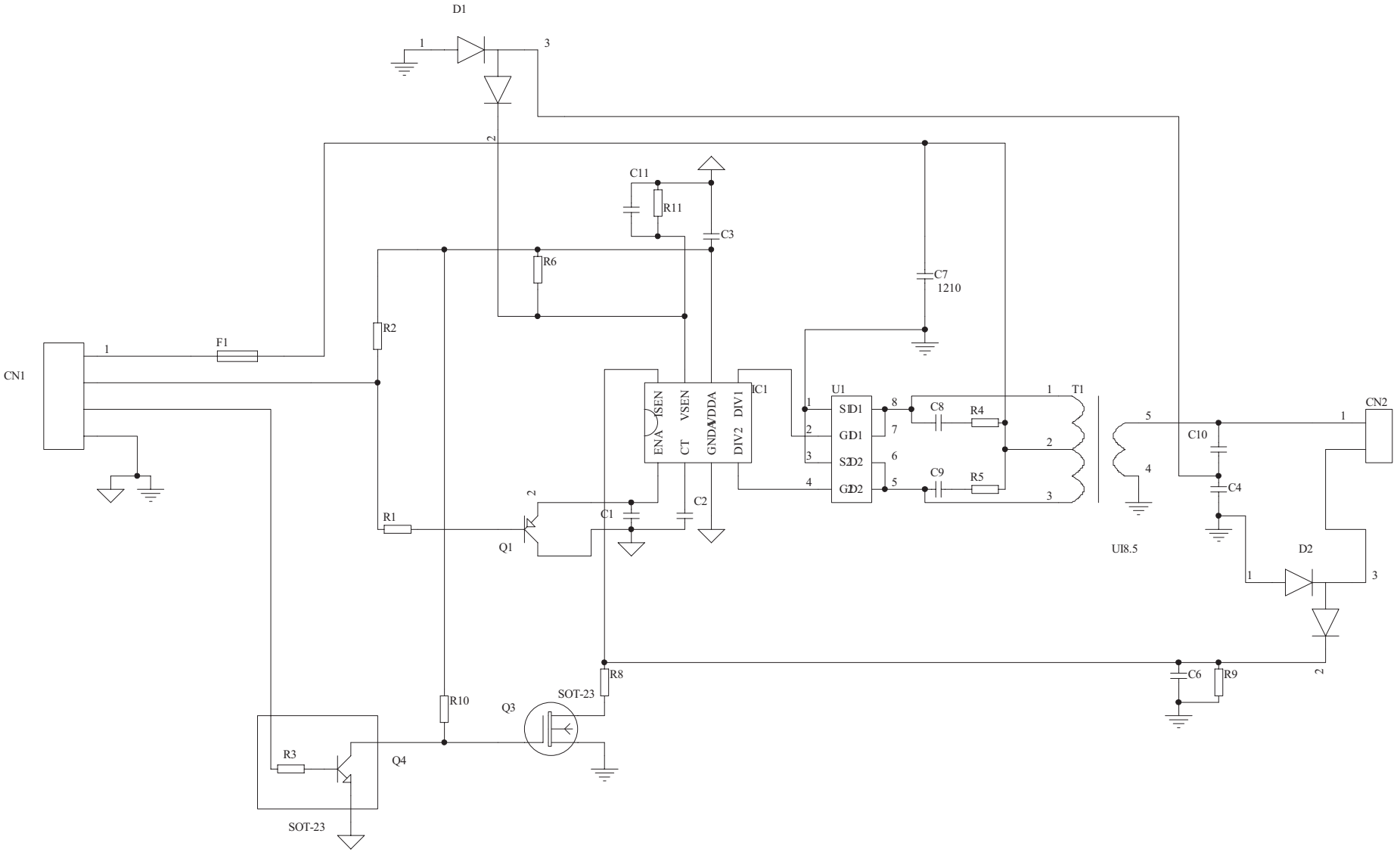


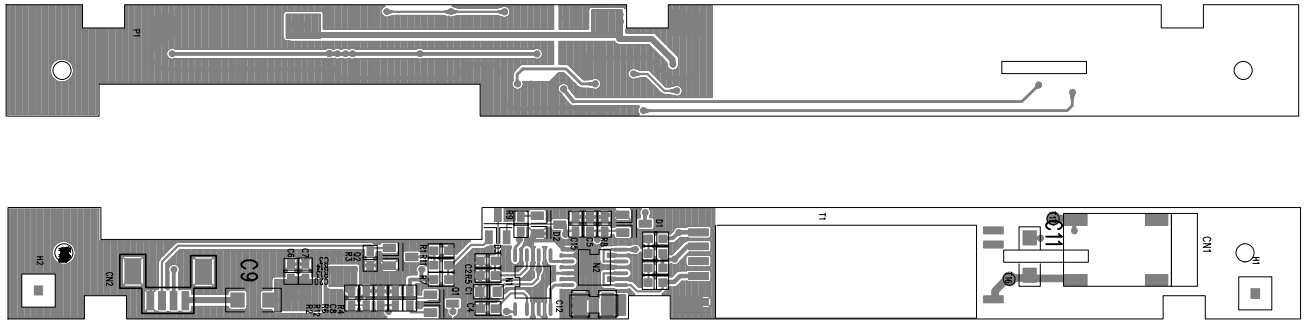

8.0 ELECTRICAL DIAGRAM

# 8.0 ELECTRICAL DIAGRAM
# MAIN BOARD CIRCUIT DIAGRAM (TFT)

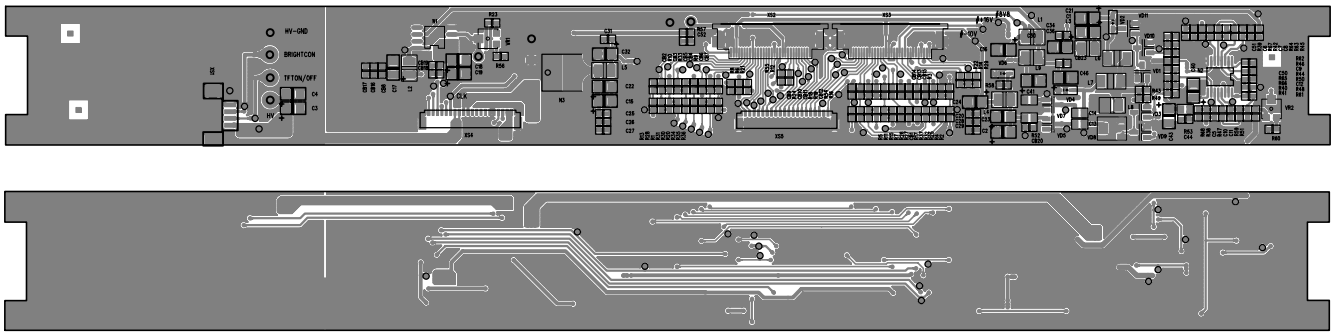


## 8.0 ELECTICAL DIAGRAM - HIGH VOLTAGE BOARD CIRCUIT DIAGRAM

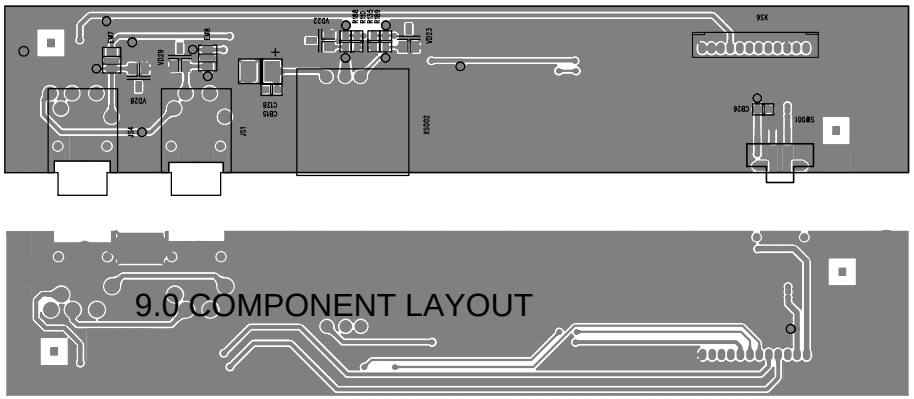




PET1000 HV POWER BOARD DIAGRAM



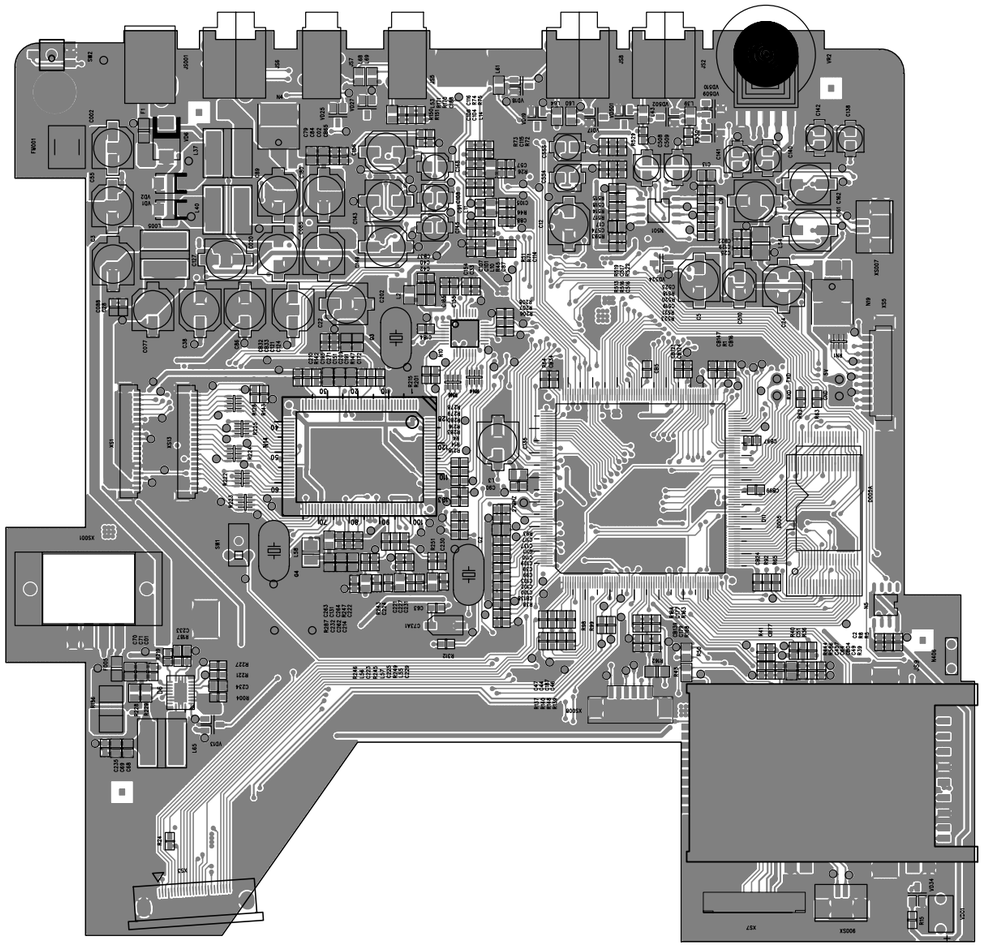

PET1000 IF BOARD DIAGRAM

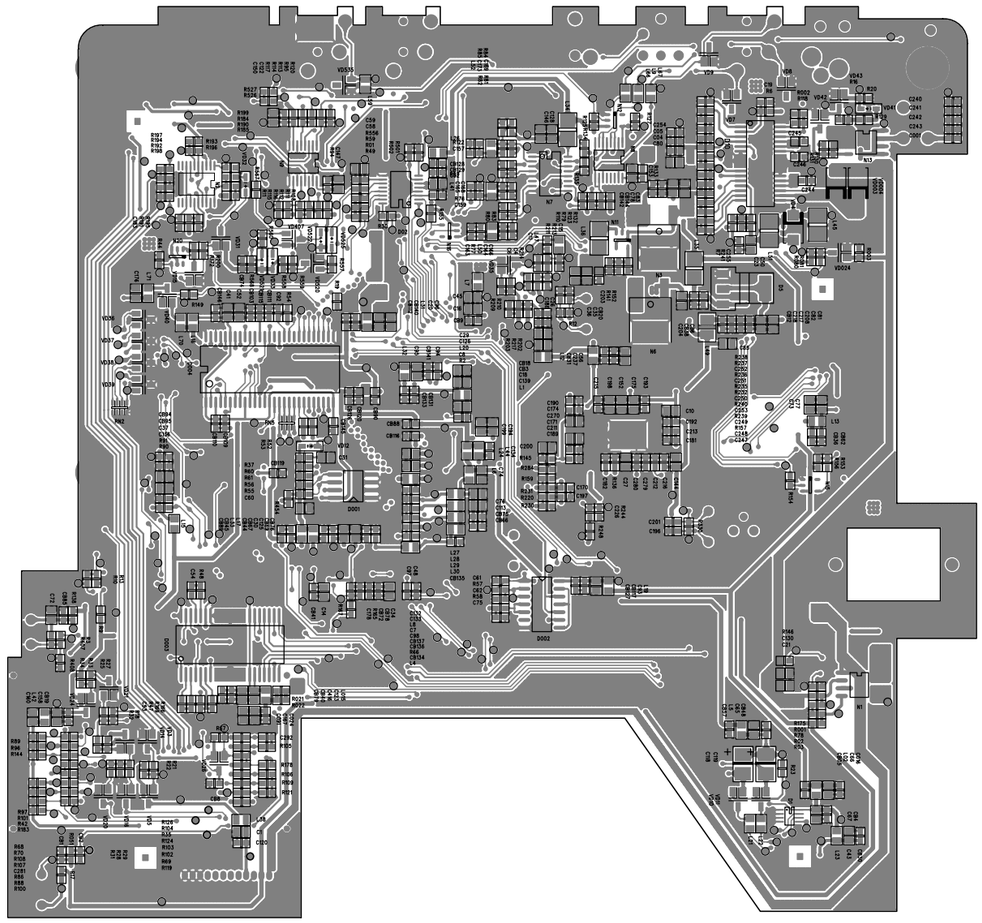


9.0 COMPONENT LAYOUT

PET1002 SWITCH BOARD DIAGRAM

9.0 COMPONENT LAYOUT



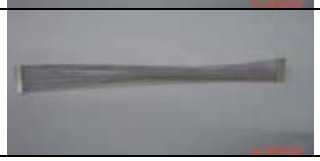


PET1002 MAIN BOARD DIAGRAM

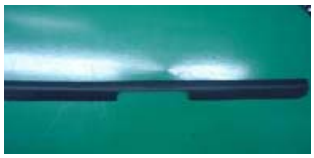
## 10.0 SERVICE PARTS LIST

| Model# | Part No. | Description | Photos | Location Code |
|---|---|---|---|---|
| PET1002<br>PET1008 | 994000003941 | RB-LI65 LITHIUM BATTERY | | BATTERY |
| PET1002<br>PET1008 | 994000003945 | RC810 REMOTE | | RC |
| PET1002<br>PET1008 | 994000001912 | AV CABLE | | AVCABLE |
| PET1002<br>PET1008 | 994000002585 | CHROMATISM CABLE | | CCABLE |
| PET1002<br>PET1008 | 994000002586 | S-VIDEO CABLE | | SVCABLE |
| PET1002/05 | 994000003524 | ADPV18A AC POWER ADAPTOR/05 | | ACADAPTOR |
| PET1002/00<br>PET1008/00 | 994000003946 | AC POWER ADADPTOR/00 | | ACADAPTOR |
| PET1002/37 | 994000003947 | ADPV26A AC POWER ADAPT0R/37 | | ACADAPTOR |
| PET1002/93 | 996500042048 | ADPV25A AC POWER ADAPTOR/93 | | ACADAPTOR |
| PET1002<br>PET1008 | 994000003948 | CAR CIGARETTE ADAPTER /00/05/37 | | CARADAPTOR |

## 10.0 SERVICE PARTS LIST

| | | | | |
|---|---|---|---|---|
| PET1002<br>PET1008 | 994000001914 | TRAVEL BAG | | BAG |
| PET1002<br>PET1008 | 994000003942 | PET1002M MAIN PCB ASS'Y | | 100 |
| PET1002<br>PET1008 | 994000002583 | PET1000 IF PCB ASS'Y | | 110 |
| PET1002<br>PET1008 | 994000002159 | PET1000 HV PCB ASS'Y | | 120 |
| PET1002<br>PET1008 | 994000003944 | PET1002 FUNCTION PCB ASS'Y | | 130 |
| PET1002<br>PET1008 | 994000002241 | 20 PIN HARNESS (LE105) | | 142 |
| PET1002<br>PET1008 | 994000002584 | 20 PIN HARNESS (LE165) |  | 146 |
| PET1002<br>PET1008 | 994000003943 | PET1002 SWITCH PCB ASS'Y | | 150 |
| PET1002<br>PET1008 | 994000002163 | PET1000 TFT LCD | | 200 |
| PET1002<br>PET1008 | 994000002228 | DV23 LOADING ASS'Y | | 210 |

## 10.0 SERVICE PARTS LIST

| | | | | |
|---|---|---|---|---|
| PET1002<br>PET1008 | 994000002165 | SPEAKER | | 220 |
| PET1002<br>PET1008 | 994000003561 | SPEAKER GRILL |  | 230 |
| PET1002<br>PET1008 | 994000003949 | TOP COVER<br>DISCRETENESS | | 300 |
| PET1002<br>PET1008 | 994000002591 | DISPLAY FRAME | | 310 |
| PET1002<br>PET1008 | 994000002589 | MIDDLE CABINET | | 320 |
| PET1002<br>PET1008 | 994000003951 | BASE COVER | | 330 |
| PET1002<br>PET1008 | 994000002992 | KEY DISCRETNESS | | 350 |
| PET1002<br>PET1008 | 994000002166 | DOOR DISCRETNESS | | 360 |
| PET1002<br>PET1008 | 994000002593 | DOOR SPRING | | 410 |

## 10.0 SERVICE PARTS LIST

The following service BOMs are applied for all version unless specified.

| Model# | Service 12NC | Description | Photos | Location Code |
|---|---|---|---|---|
| PET1002<br>PET1008 | 996510002088 | ON / OFF KNOB | | 420 |
| PET1008/00 | 314017910141 | DTM150 TECHNICAL SET | | 500 |
| PET1008/00 | 314107941051 | ADAPTOR AC TO DC 9V 1.11A | | ACADAPTOR |
| PET1008/00 | 314107941041 | ANTENNA CABLE | | ANTENNA |
| PET1008/00 | 313923810891 | RC19137008/01 REMOTE | | RC |
| PET1008/00 | 31410791061 | SCART CABLE AY3929 | | SCABLE |

## 11.0 REVISION LIST

Version 1.0 (3141 785 30820)

- Initial release PET1002/00/05/37

Version 1.1 (3141 785 30821)

Chapter 10

- Add new spare part 996500039077 ADPV25A ADAPTOR/93

Version 1.2 (3141 785 30822)

Chapter 10

- Revised 12NC of ADPV25A ADAPTOR/93 to 996500042048
- Added the location code of all spare parts

Version 1.3 (3141 785 30823)

Chapter 10

- Added new spare part for PET1008

Version 1.4 (3141 785 30824)

Chapter 10

- Added new spare part 996510002088 ON/OFF POWER KNOB